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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/919,527	07/31/2001	N. Lee Rhodes	10013111-1	3660
22879 7590 02/25/2008 HEWLETT PACKARD COMPANY P O BOX 272400, 3404 E. HARMONY ROAD INTELLECTUAL PROPERTY ADMINISTRATION FORT COLLINS, CO 80527-2400			EXAMINER NASH, LASHANYA RENEE	
			ART UNIT 2153	PAPER NUMBER
			NOTIFICATION DATE 02/25/2008	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

09/919,527

Applicant(s)

RHODES, N. LEE

Examiner

LASHANYA R. NASH

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 November 2007.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 6, 7, 9-12, 14-24, 37, 42, 44, 46 and 47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 23, 24, 37, 42, 44, 46 and 47 is/are allowed.
- 6) ☐ Claim(s) 1, 6, 7, 9-12, 14-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

This action is in response to a request for continued examination filed 28 November 2007. Claims 1, 6-7, 9-12, 14-24, 37, 42, 44, and 46-47 are presented for further consideration. Claims 2-5, 8, 13, 25-36, 38-41, 45 and 48 are cancelled. Claims 1,-7, 9, 11, 12, 23, 37, 42, 44 and 46-47 are currently amended.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 28 November 2007 has been entered.

Response to Arguments

In regards to currently amended claim 1, the recitation "analyzing a stream of network usage data" has not been given patentable weight because the recitation occurs in the preamble. A preamble is generally not accorded any patentable weight where it merely recites the purpose of a process or the intended use of a structure, and where the body of the claim does not depend on the preamble for completeness but, instead, the process steps or structural limitations are able to stand alone. See *In re Hirao*, 535 F.2d 67, 190 USPQ 15 (CCPA 1976) and *Kropa v. Robie*, 187 F.2d 150,

152, 88 USPQ 478, 481 (CCPA 1951). Therefore, the term "record event associated with an identifier", is not considered to be associated with a network usage identifier or rather a user of the network, but more broadly interpreted as an identifier associated with a record. Examiner further asserts that an identifier associated with a record is taught by Dietz as an identifier of the flow-entry (column 17, lines 9-60; Figure 3-item 322). As a result, the indicated allowability of currently amended claim 1 is withdrawn in view of new interpretation of the claims over the prior art, as set forth below.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1,6,9-10 and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz et al (US Patent 6,839,751) in view of Rosenberg et al. (US Patent Application Publication 2003/0023951) and Steinbiss et al. (US Patent 6,823,307), hereinafter referred to as Dietz, Rosenberg and Steinbiss.

In reference to claim 1, Dietz discloses a method for re-using information from data transactions for maintaining statistics in network monitoring. Dietz discloses (abstract; column 4, lines 14-33):

- A method for analyzing a stream of usage data (Figure 3; column 8, lines 45-56),

comprising:

- Generating a statistical model (i.e. statistical measures/network usage metrics; column 3, lines 14-33; column 17, lines 35-53) from a set of record events (i.e. flow-entry; column 10, line 55-column 11, line 5);
- Receiving a most recent record event, (i.e. new packet of flow arrives at monitor; column 8, lines 45-62; Figure 3-item 302) and
- Updating the statistical model using the most recent event by adding the most recent record to the statistical model (updating statistical measures stored in the flow-entry; column 11, lines 50-58; column 12, lines 55-67), wherein an identifier is associated with each record event (i.e. unique flow signature; column 11, lines 15-49);
- defining the statistical model to include an aggregation of each record event set stored in the history cache (columns 11-12);
- wherein generating a statistical model from the set of record events includes generating an aggregation table (i.e. flow-entry table) for tracking an aggregation of record events associated with an identifier (columns 11-12); and
- wherein the most recent record is associated with an identifier (i.e. unique flow signature); and wherein updating the statistical model includes updating only the aggregation of the record events in the tracking table for that identifier (i.e. updating statistical measures of the flow-entry that matches the unique flow signature/previously encountered flow; column 17, lines 9-60; Figure 3-item 322).

However, the reference fails to disclose updating only a portion of the statistical model

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associated with the identifier. Nonetheless, this would have been an obvious modification to the aforementioned method to one of ordinary skill in the art at the time of the invention, as further evidenced by Rosenberg.

In an analogous art, Rosenberg discloses a method for data analysis and statistical modeling (abstract). Rosenberg further discloses updating only a portion of the statistical model associated with the identifier (i.e. updating statistical model for the new input data; paragraphs [0071]-[0073]; paragraph [0067]). This modification to the aforementioned method would have been obvious, because one of ordinary skill in the art would have been so motivated to present statistical summaries in a coherent and efficient manner for subset analysis to tackle large-scale problems (Rosenberg; paragraph [0067], lines 22-24; paragraph [0073], lines 8-12). Although Dietz and Rosenberg disclose substantial features of the aforementioned method such as storing the set of records in a history cache (column 17, lines 18-20), the references fail to explicitly disclose the method further comprising the step of: if the history cache is full, updating the statistical model includes removing a least recent event from the statistical model. Nonetheless, this would have been an obvious modification to the aforementioned method, to one of ordinary skill in the art at the time of the invention, as further evidenced by Steinbiss.

In an analogous art, Steinbiss discloses a method for employing stochastic models that involves storing recently recognized elements in a cache, (abstract; column 2, lines 25-38; and column 5, lines 15-30). Steinbiss further discloses once the cache is full, removing the least recently stored element, (column 5, line 60 to column 6, line 7).

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This modification would have been obvious, because one of ordinary skill in the art would have been so motivated to implement this feature so as to maximize available memory space, thereby reducing cost associated with larger capacity cache memories, (Steinbiss column 5, line 66 to column 6, line 3).

In reference to claims 6, 9 Dietz discloses generating a complex statistical model representative of the network data from the aggregation table (column 17, lines 35-59).

In reference to claim 10, Dietz discloses updating the statistical model includes updating only a portion of the complex statistical model associated with an identifier (columns 17-18).

In reference to claim 12, Steinbiss discloses upon receiving the most recent record event replacing the least recent record even stored in the history cache with the most recent record event, (column 5, line 60 to column 6, line 7).

Claims 7, 11, and 14-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dietz, Rosenberg and Steinbiss as applied to claim 1 above, and further in view of Abounaga et al. (US Patent 6,460,045), hereinafter referred to as Dietz, Rosenberg and Abounaga.

In reference to claims 7 and 11, although Dietz, Rosenberg and Steinbiss discloses substantial features of the claimed invention, the references fail to show generating a

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histogram statistical model representative of the network data from the aggregation table. Nonetheless, histogram statistical models were well known in the art at the time of the invention, as further evidenced by Abounaga. Therefore, this limitation would have been an obvious modification to the aforementioned method, as disclosed by the references, for one of ordinary skill in the art.

In an analogous art, Abounaga discloses a method of building histogram statistical models, (column 5, line 37 to column 6, line 3). Abounaga further shows building a histogram that includes a first axis defined a number of bins (i.e. bins; Figure 6-*BUCKETS*), each bin having a variable range (i.e. high to low; Figure 3; column 6, lines 30-55) and a second axis defined by a frequency (Figure 3&6) within the variable range of each bin, (columns 5-10). This modification would have been obvious to one of ordinary skill in the art, so as employ the bins and buckets of the aggregation table (i.e. flow-entry table; Dietz; column 17, lines 9-35) to increase the accuracy of the statistical model estimations and thereby increasing process effectiveness, (Abounaga column 1, lines 54-55).

In reference to claim 14, Steinbiss further discloses wherein if the history cache is full, updating the statistical model further includes removing a least recent record event set associated with a least recent update time interval from the statistical model, (column 5, line 60 to column 6, line 7).

In reference to claim 15, Dietz discloses defining the statistical model to include an

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aggregation of each record event stored in the history cache (i.e. flow-entry table; columns 17-18).

In reference to claim 16, Dietz discloses wherein the history cache is an array of memory segments, wherein the number of memory segments is equal to the number of update time intervals in the rolling time interval, (columns 17-18).

In reference to claim 17, Dietz discloses storing each record event in a memory segment in the history cache, (columns 17-18).

In reference to claim 18, Dietz discloses defining an index array associated including a set of contiguous index segments, wherein each index segment including a pointer to the memory segment storing in the history cache storing the next consecutive record event, (i.e. lookup engine; columns 17-18).

In reference to claim 19, Dietz discloses defining a first pointer to the index segment associated with the memory segment storing the least recent record event, (i.e. lookup engine; columns 17-18).

In reference to claim 20, Steinbiss discloses wherein upon receiving a most recent record event the method further comprising replacing the least recent record event stored in the history cache with the most recent record event, (column 5, line 60 to

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column 6, line 7).

In reference to claim 21, Dietz discloses, moving the first pointer to the next contiguous index segment, (i.e. lookup engine; columns 17-18).

In reference to claim 22, Dietz discloses further defining a second pointer to the index segment associated with the memory segment storing the most recent record event, (i.e. lookup engine; columns 17-18).

Allowable Subject Matter

Claims 23-24, 37, 42, 44 and 46-47 are allowable as the prior art of record fails to teach or suggest individually or in combination the claimed limitations of a method for analyzing a stream of network usage data comprising updating a statistical model, wherein updating the statistical model includes updating only the aggregation of records in the tracking table for that identifier.


Conclusion

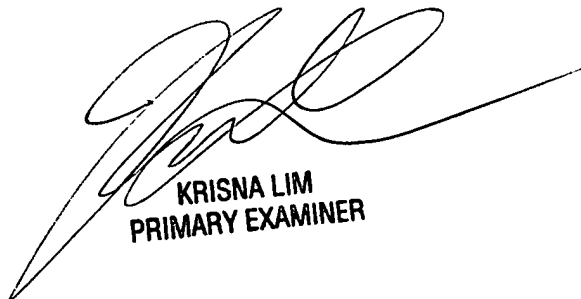
Any inquiry concerning this communication or earlier communications from the examiner should be directed to LaShanya R Nash whose telephone number is (571) 272-3957. The examiner can normally be reached on 9am-5pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenton Burgess can be reached on (571) 272-3949. The fax phone number for the organization where this application or proceeding is assigned is (571) 273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LaShanya Nash 
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February 18, 2008


KRISNA LIM
PRIMARY EXAMINER